

*Sertifikaat*

REPUBLIEK VAN SUID-AFRIKA

PATENT KANTOOR  
DEPARTEMENT VAN HANDEL  
EN NYWERHEID



IB/2004/03270

*Certificate*

REPUBLIC OF SOUTH AFRICA

PATENT OFFICE  
DEPARTMENT OF TRADE AND  
INDUSTRY

Hiermee word gesertifiseer dat  
This is to certify that

the documents annexed hereto are true copies of:

Application forms P.1 and P.3, provisional specification and drawings of  
South African Patent Application No. 2003/7931 as originally filed in the  
Republic of South Africa on 10 October 2003 in the name of SHIRANOR  
INVESTMENTS LIMITED for an invention entitled: "A TABLE".

Geteken te  
Signed at **PRETORIA**

in die Republiek van Suid-Afrika, hierdie  
in the Republic of South Africa, this

02 dag van  
day of November 2004

Registrar of Patents

**PRIORITY  
DOCUMENT**

SUBMITTED OR TRANSMITTED IN  
COMPLIANCE WITH RULE 17.1(a) OR (

REPUBLIC OF SOUTH AFRICA  
FORM P.1 REVENUE  
(to be lodged in duplicate)  
10.10.03 R 060.90  
UNDERMENTIONED APPLICANT  
DUPLICATE NASH 370  
INKOMSTE  
A&A REF : M15674 ALWDMARE

21	01	PATENT APPLICATION NO 2003/7951
----	----	---------------------------------

21	01	PATENT APPLICATION NO. 2003/1951
----	----	----------------------------------

71	FULL NAME(S) OF APPLICANT(S)
----	------------------------------

**ADDRESS(ES) OF APPLICANT(S)**

**Apartment No. 301, 12011 Goshen Avenue  
BRENTWOOD, Los Angeles CA 900949  
United States of America**

54	TITLE OF INVENTION
----	--------------------

## " A TABLE "

THE APPLICANT CLAIMS PRIORITY AS SET OUT ON THE ACCOMPANYING FORM P.2. The earliest priority claimed is

Country:

**No:**

Date:

THE APPLICATION IS FOR A PATENT OF ADDITION TO PATENT APPLICATION NO

21 | 01

**THIS APPLICATION IS A FRESH APPLICATION IN TERMS OF SECTION 37 AND BASED ON**

APPLICATION NO

21 | 01

**THIS APPLICATION IS ACCOMPANIED BY:**

x	A single copy of a provisional specification of <b>11</b> pages
x	Drawings of <b>4</b> sheets
	Publication particulars and abstract (Form P.8 in duplicate) (for complete only)
	A copy of Figure of the drawings (if any) for the abstract (for complete only)
	An assignment of invention - <b>TO FOLLOW</b>
	Certified priority document(s). (State quantity)
	Translation of the priority document(s)
	An assignment of priority rights
	A copy of Form P.2 and the specification of RSA Patent Application No
	Form P.2 in duplicate
	A declaration and power of attorney on Form P.3 - <b>TO FOLLOW</b>
	Request for ante-dating on Form P.4
	Request for classification on Form P.9
	Request for delay of acceptance on Form P.4
	Extra copy of informal drawings (for complete only)

21 | 01

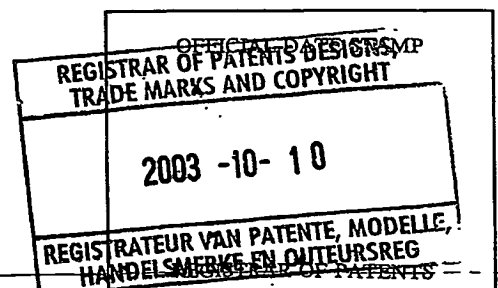
74 ADDRESS FOR SERVICE: Adams & Adams, Pretoria

Dated this 10 day of October 2003

ALAN LEWIS  
ADAMS & ADAMS  
APPLICANTS PATENT ATTORNEYS

The duplicate will be returned to the applicant's address for service as proof of lodging but is not valid unless endorsed with official stamp

A&amp;A P201



A & A Ref No: V15974 AL/DM/am

ADAMS & ADAMS  
PATENT ATTORNEYS  
PRETORIA

FORM P6

REPUBLIC OF SOUTH AFRICA  
Patents Act, 1978

## PROVISIONAL SPECIFICATION

(Section 30 (1) - Regulation 27)

21	01	OFFICIAL APPLICATION NO
----	----	-------------------------

... 2003/7931

22	LODGING DATE
----	--------------

10 October 2003

71	FULL NAME(S) OF APPLICANT(S)
----	------------------------------

SHIRANOR INVESTMENTS LIMITED

72	FULL NAME(S) OF INVENTOR(S)
----	-----------------------------

BROOKE, Rory

54	TITLE OF INVENTION
----	--------------------

" A TABLE "

**THIS INVENTION** relates to tables. In particular, the invention relates to a table support structure and to a table which includes the table support structure.

The invention provides a table support structure which is connectable to a table top which includes:

- a mounting member for mounting the table top to the table support structure;

- a first support member which is fast with the mounting member and which provides a first pair of feet for the table support structure;

- a displaceable support member which provides a second pair of feet for the table support structure;

- a guide member which is fast with the first support member; and

- a housing member which is fast with the displaceable support member and which defines a guide passage in which the guide member is slidingly received, the guide passage, in use, being dimensioned and shaped so that the guide member frictionally engages with the guide passage in response to a relative angular displacement between the displaceable support member and the guide member about a horizontal pivot axis, to limit displacement of the pairs of feet relative to each other.

The table support structure may include an elongated operatively upright post, an operatively upper end of which is fast with the mounting member, and a spider, which is affixed to an operatively lower end of the post, the spider comprising four radially extending spokes which are spaced apart 90° in a

circumferentially extending series, thus forming two pairs of diametrically opposed spokes. Each spoke may be broadly channel-shaped or trough-shaped and open operatively downwardly. The first support member may include one of the pairs of diametrically opposed spokes. The other pair of diametrically opposed spokes may be a locating arrangement for locating the displaceable support member, the displaceable support member being in the form of an elongated leg which is received in the said pair of diametrically opposed spokes, extending lengthwise along the said pair of spokes.

Typically, the guide member is an elongated guide pin which projects operatively downwardly from the post, the feet of the displaceable support member being equally radially spaced from the guide pin, so that the displaceable support member is linearly slidably displaceable along the guide pin when equal forces in a lengthwise direction of the guide pin are applied to the said feet.

The size of the guide passage may be adjustable. Thus, the housing member may be a split housing. The guide passage defined by the split housing may be right circular cylindrical in shape with a slit extending along the full length of the housing, the size of the slit, and thus the diameter of the guide passage, being adjustable by an adjusting bolt. More particularly, the housing may be provided with two members for receiving the adjusting bolt. The bolt receiving members may be positioned proximate to the slit, one of either side of the slit, may extend outwardly from the housing and may be spaced apart from each other, the inner surface of each bolt receiving member being the surface which is proximate to the other bolt receiving member and the outer surface of each bolt receiving member being the surface which opposes the inner surface of the associated bolt

receiving member. The bolt receiving members may extend substantially parallel to each other. Each bolt receiving member may have an aperture for receiving the adjusting bolt, the apertures of the two bolt receiving members being aligned with each other. In use, the adjusting bolt extends through the apertures, a head of the bolt being positioned against the outer surface of one of the bolt receiving members and a nut being positioned on the outer surface of the other bolt receiving member. The tightening of the nut on a shaft of the bolt thus causes the breadth of the slit to narrow and the diameter of the guide passage to decrease.

In use, the diameter of guide passage is adjusted such that there is limited clearance between the guide pin and the displaceable support member, so that there is frictional locking of the displaceable support member on the guide pin when a couple, or a nett moment about the guide pin, is exerted on the displaceable support member.

It will be appreciated that the displaceable support member will thus only be slidably displaceable along the guide passage when there is substantially no nett moment acting on the displaceable support member about the horizontal pivot axis.

Preferably, the support structure includes a pair of urging members for urging the displaceable support member away from the support structure. Typically, each urging member is a stressed spring under compression acting between the displaceable support member and the locating arrangement, the springs being equally radially spaced on diametrically opposite sides of the guide pin.

The guide pin may be lubricated and the table support structure may be provided with sealing means for sealing the guide pin from the environment. The sealing means may include rubber seals and rubber boots.

The displaceable leg may be of mild steel and may be cast or fabricated.

The invention extends to a table which includes a table support structure, as described above, and a table top mounted on the table support structure.

The invention will now be further described, by way of example, with reference to the accompanying schematic drawings, in which:

Figure 1 is a three dimensional view of a portion of a table support structure in accordance with the invention (lower guide pin seal excluded);

Figure 2 is a sectional side view (on a different scale) of a portion of a table which includes the table support structure of Figure 1 (lower guide pin seal excluded);

Figure 3 is a top plan view (on a different scale) of a housing member and a portion of a displaceable support member of the table support structure of Figure 1;

Figure 4 is a bottom plan view (on a different scale) of a portion of the table support structure of Figure 1 (lower guide pin seal included).

Referring to the drawings, reference numeral 10 generally indicates a portion of a table in accordance with the invention (Figure 2). The table 10

comprises a table top 12 mounted on a table support structure 14. The table support structure 14 in turn comprises an operatively upright post 16 and a spider 18 which includes four radially extending equally angularly spaced spokes 20 connected to a lower end 22 of the post 16. The spider 18 is shaped such that a plane defined by the spokes 20 is normal to the lengthwise direction of the post 16.

A mounting member 24 is connected to an upper end 26 (Figure 2) of the post 16, the mounting member 24 comprising a series of four angularly spaced mounting flanges 28 (Figure 2). Each mounting flange 28 has a pair of apertures (not shown) therethrough, through which screws (also not shown) are passed, the screws being screwed into the table top 12, to mount the table top 12 on the table support structure 14.

Each spoke 20 is channel-shaped and opens downwardly, thus being broadly U-shaped cross-sectional profile. A displaceable support member in the form of an elongated displaceable leg 30 is received in one pair of the aligned spokes 20, extending lengthwise along the said pair of spokes 20. The displaceable leg 30 is of cast mild steel. The displaceable leg 30 provides a downwardly projecting foot 32 at each end thereof. The spider 18 forms a locating arrangement for keeping the displaceable leg 30 perpendicular to the other pair of spokes 20 by restricting pivotal displacement of the displaceable leg 30 about an axis (not shown) aligned with a line extending axially down the post 16.

The table support structure 14 includes a split housing 36 which is fast with the displaceable support member 30. The split housing 36 defines a right circular



cylindrical guide passage 34. A guide member in the form of a right circular cylindrical guide pin 38 projects downwardly from the lower end 22 of the post 16, the guide pin 38 being co-axially aligned with the post 16, and is slidingly received in the guide passage 34.

The pin 38 has a blind screw-threaded bore 40 at each of its ends, the bore 40 closest to the post 16 being screw-threadedly engaged with a tightening rod 42 which extends lengthwise along the hollow interior of the post 16. The tightening rod 42 passes, at its one end, through a complementary opening in the spider 18, and at its other end, through a complementary opening in the mounting member 24, a tightening nut 44 being screw threadedly engaged with the upper end of the rod 42. Thus, the pin 38 doubles as a nut, so that tightening of the pin 38 places the rod 42 under tension, clamping the mounting member 24 to the upper end 26 of the post, and clamping the spider 18 to the lower end 22 of the post 16.

A stop washer 46 is connected to the lower end of the pin 38 by a bolt 47 which is screwingly received in the screw-threaded bore 40 at the lower end of the pin 38, the washer 46 having a diameter which is greater than the diameter of the passage 34, so that the washer 46 limits sliding displacement of the leg 30 along the pin 38 by abutment of the leg 30 against the washer 46. The passage 34 may be stepped, to be wider at its bottom end, with an internal shoulder against which the washer 46 bears, such that the washer 46 and the head of the bolt 47 are within the passage.

The table 10 includes a pair of coiled springs 48 (only one of which is shown in Figure 2) under compression, the springs 48 acting between the spider 18 and the leg 30, to urge the leg 30 operatively downwardly away from the spider 18, the springs 48 being under compression even when the leg 30 abuts the stopping washer 46. Although not shown in Figure 2 of the drawings, the springs 48 are spaced an equal radial distance from the guide pin 38, and are diametrically opposed about the pin 38.

As can be seen in Figure 1 of the drawings, the spokes 20 of the other pair of aligned spokes 20, i.e. the spokes 20 which extend perpendicularly to the leg 30, are each provided with an operatively downwardly projecting knob at its radially outer end, each knob forming a fixed foot 50. Said pair of spokes 20 thus form a first support member which has a foot 50 at each end thereof.

Referring in particular to Figures 3 and 4, the split housing 36 has a slit 52. The slit 52 extends along the full length of the split housing 36, the size of the slit 52, and thus the diameter of the guide passage 34, being adjustable by an adjusting bolt 54. More particularly, the housing 36 is provided with two members 56 for receiving the adjusting bolt 54. The bolt receiving members 56 are positioned proximate to the slit 52, one on either side of the slit 52, extend outwardly from the housing 36 and are spaced apart from each other, the inner surface 58 (Figure 4) of each bolt receiving member 56 being the surface which is proximate to the other bolt receiving member 56 and the outer surface 60 (Figure 4) of each bolt receiving member 56 being the surface which opposes the inner surface 58 of the associated bolt receiving member 56. The bolt receiving members 56 extend substantially parallel to each other. Each bolt receiving

member 56 has an aperture (not shown) for receiving the adjusting bolt 54, the apertures of the two bolt receiving members 56 being aligned with each other. In use, the adjusting bolt 54 extends through the apertures, a head 64 (Figure 4) of the bolt 54 being positioned against the outer surface 60 of one of the bolt receiving members 56 and a nut 66 (Figure 4) being positioned on the outer surface 60 of the other member 56. The tightening of the nut 66 on a shaft 68 (Figure 4) of the bolt 54 thus causes the breadth of the slit 52 to narrow and the diameter of the guide passage 34 to decrease. The guide pin 38 is lubricated and the support structure 14 is provided with an upper rubber guide pin seal 70 (Figure 3) and a lower rubber guide pin seal 72 (Figure 4), for sealing the guide pin 38 from the environment.

In use, the table support structure 14 supports the table top 12 on a support surface such as the ground (not shown). When the ground surface is uneven, the table support structure 14 is automatically operable to displace the leg 30 relative to the spider 18 such that all four feet 50, 52 bear against the support surface.

The diameter of guide passage 34 is adjusted such that there is limited clearance between the guide pin 38 and the displaceable support member 30, so that there is frictional locking of the displaceable support member 30 on the guide pin 38 when a couple, or a nett moment about the guide pin 38, is exerted on the displaceable support member 30. The displaceable support member 30 is thus only slidably displaceable along the guide passage 34 when there is substantially no nett moment acting on the displaceable support member 30 about an axis aligned with a line interconnecting the fixed feet (not shown).

When, for instance, the ground is uneven such that both of the fixed feet 50 bear against the ground, but only one of the displaceable feet 32 at a time touches the ground, the table 10 will tend to rock by pivoting of the spider 18 about the axis aligned with a line interconnecting the fixed feet 50. During such rocking, the displaceable leg 30 is urged downwardly by the springs 48 when both feet 32 are clear of the ground, i.e. when no external forces are exerted on the feet 32, the leg 30, via the split housing 36, being automatically locked in position on the guide pin 38 when either of the feet 32 abut against the ground. The displaceable leg 30 thus automatically finds a position where both its feet 32, as well as the fixed feet 50 bear against the ground.

In instances where the ground is uneven such that both the displaceable feet 32, but only one of the fixed feet 50, bear against the ground, the leg 30 is displaced upwardly along the guide pin 38 until both the fixed feet 50 bear against the ground surface. It will be appreciated that, in order for the leg 30 to be in equilibrium, upward forces exerted by the ground on the displaceable feet 32 must be equal to each other, the feet 32 being equally spaced from the guide pin 38, and these equal upward forces cause upward displacement of the leg 30 against the urging of the springs 48 until the table support structure 14 attains a stable, static condition.

Once all four feet 32, 50 bear against the ground, the table 10 remains stable, as the leg 30, and therefore the feet 32, is effectively locked in position. This is because any attempt at rocking the table 10 will result in the

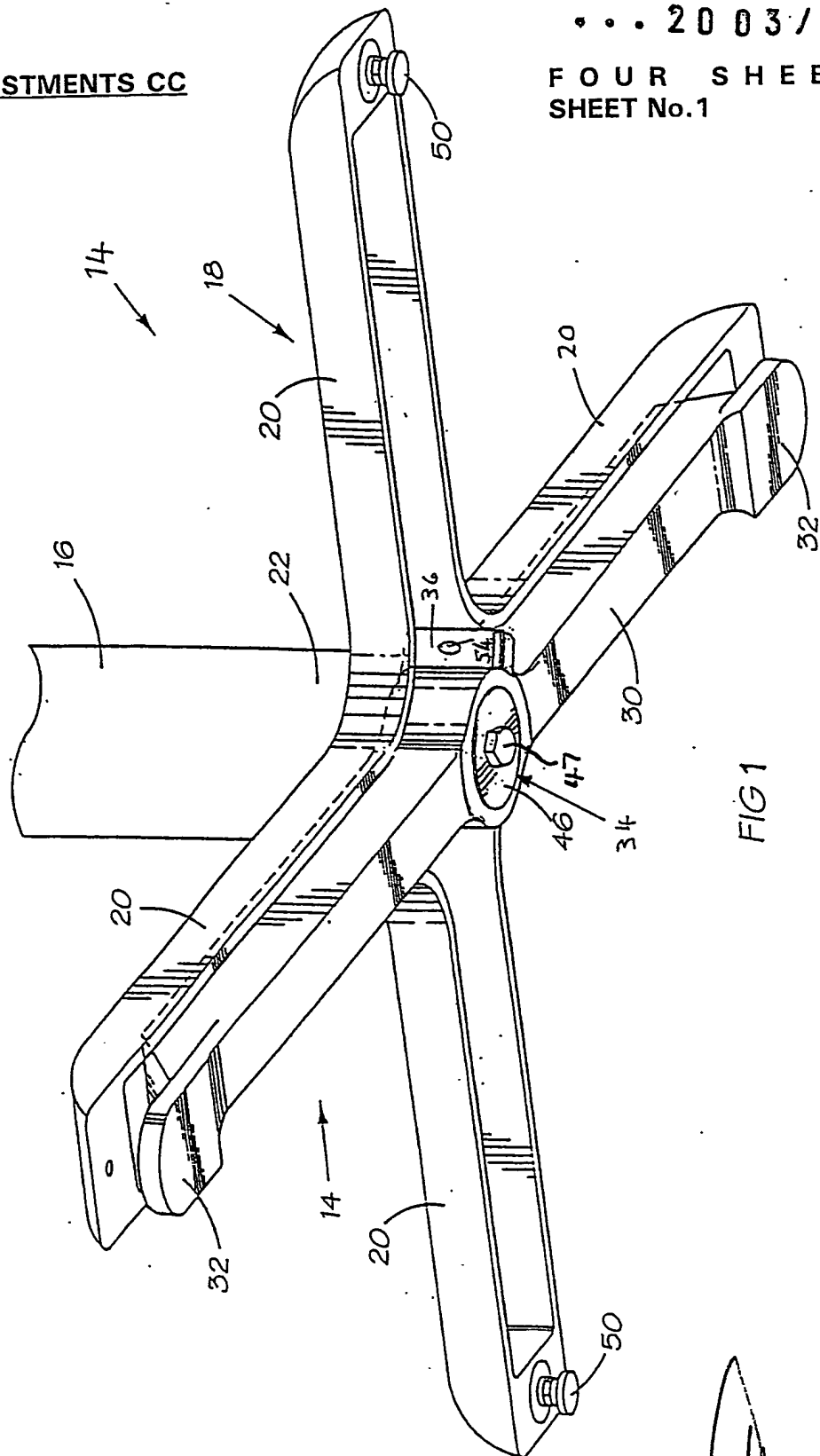
application of unequal forces to the feet 32, causing automatic and immediate frictional locking of the leg 30, via the split housing 36, on the guide pin 38.


It is an advantage of the table 10, as described with reference to the drawings that the displaceable leg 30 and the guide pin 38 can be connected to a spider 18 used in the construction of conventional non-stabilizing table supports. This permits the manufacture of a stabilizing table, as described, without the need for large scale alterations to the machinery, such as dies or moulds, used to manufacture conventional tables. Furthermore, the guide pin 38 and displaceable leg 30 can be retro-fitted to existing tables, to form a self-stabilising table 10. Furthermore, the split housing 36 enables the diameter of the guide passage 34 to be adjusted, in use, for optimal fit around the guide pin 38.

Dated this 10<sup>th</sup> day of October 2003

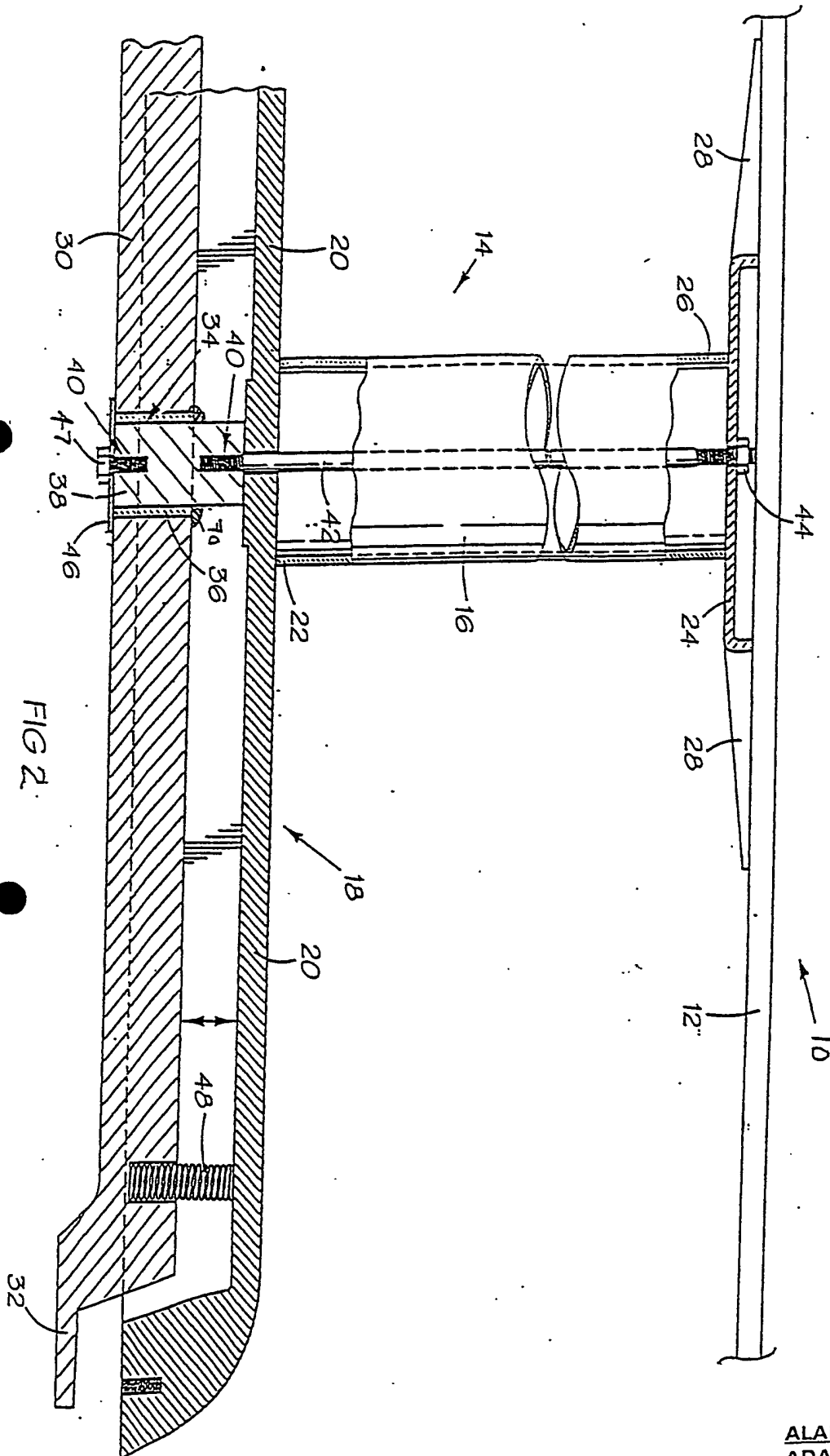


**ALAN LEWIS  
ADAMS & ADAMS  
APPLICANT'S ATTORNEY**



  
ALAN LEWIS  
ADAMS & ADAMS  
APPLICANT'S PATENT ATTORNEY

SHIRANOR INVESTMENTS CC



ALAN LEWIS  
ADAMS & ADAMS

... 2003/7931

SHIRANOR INVESTMENTS CC

FOUR SHEETS  
SHEET No.3

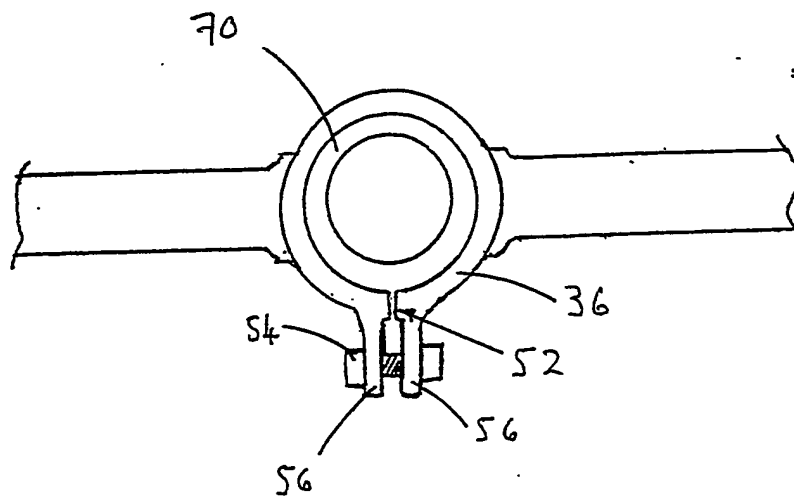


Fig. 3.

ALAN LEWIS  
ADAMS & ADAMS  
APPLICANT'S PATENT ATTORNEY



